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Mitchell A. Benjamin

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EXAMINER

WEISKOPF, MARIE

ART UNIT

PAPER NUMBER

3661

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/981,660

Applicant(s)

BENJAMIN ET AL.

Examiner

Marie A. Weiskopf

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 20 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/10/02&2/15/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

### ***Claim Objections***

2. Claims 20 and 30 are objected to because of the following informalities:
  - In regard to claim 20, "form" should be changed to "from"
  - In regard to claim 30, "multiple sensor" is repeated and should be removed, also the second comma should be removed.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1-2, 12-14, 21, 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Fleck et al (US 6,012,012). Fleck et al discloses a method and system for determining dynamic traffic information comprising:

- In regard to claim 1, a system for communicating information between mobile units, the system comprising:
  - A plurality of mobile units (Abstract)
  - Each unit comprising onboard multiple sensors (Column 4, line 64 – Column 5, line 4)
  - Each sensor communicating with onboard means for processing inputs from sensors using data fusion (Column 5, lines 17-28) Fleck et al discusses the terminal recognizing the type of event happening with the vehicle based upon sensor data and then sends a message to the control center.
  - The processing means in communication with means for wireless receiving and means for wireless transmitting of information (Column 5, lines 17-28, lines 32-37)
  - The processing means comprising means for selecting a path for communicating information (Column 2, lines 40-49; Column 5, lines 17-28). The system decides to send the information to either the call center or nearby vehicles or both.
  - The path including at least communicating information from one of the mobile units to another mobile unit. (Column 2, lines 40-49)

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- In regard to claim 2, using multi-sensor fusion information to establish in real time a unique location of each of at least some of the plurality of mobile units (Column 6, lines 39-40)
- In regard to claim 12, further comprising communicating location data for at least some of the mobile units to a call center, the call center having means to analyze location data to produce traffic information (Column 5, lines 5 – 28)
- In regard to claim 13, wherein the call center further comprises means to communicate to at least some of the mobile units the traffic information about an environment in the vicinity of the at least some mobile units. (Column 5, lines 32-37)
- In regard to claim 14, wherein the call center further comprises means to divert movement of mobile units based on traffic information (Column 5, lines 29-47)
- In regard to claim 20, a system for traffic control, the system comprising:
  - A plurality of mobile units (Abstract)
  - Each mobile unit equipped with multiple onboard sensors for detecting traffic environment conditions surrounding the mobile unit (Column 4, line 64 – Column 5, line 4; Column 5, lines 17-28)
  - Each mobile unit equipped with an onboard processor receiving inputs from the sensors (Column 5, lines 17-28)
  - The processor in communication with means for wireless receiving and for means for wireless transmitting of detected information (Column 5, lines 17-28, lines 32-37)

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- The processor comprising means for selecting a path for communicating information processed by data fusion between at least one of the mobile units and a traffic communication center (Column 5, lines 17-28)
  - The path comprising using wireless receiving means and wireless transmitting means of at least one other mobile unit (Column 2, lines 40-49)
- In regard to claim 21, further comprising using multi-sensor fused data to establish in real time a unique location of each of at least some of the plurality of mobile units, in closest proximity to a mobile unit that is communicating or about to communicate information (Column 5, line 60 – Column 6, line 20)
- In regard to claim 23, further comprising communicating location data for at least some of the mobile units from the mobile units through a communications path comprising receiving and transmitting means of other mobile units to a center, the center having means to receive, store and analyze location data to develop traffic condition information (Column 5, lines 29-59)
- In regard to claim 24, wherein the center further comprises means to communicate traffic condition information about an environment surrounding at least some mobile units to the at least some of the mobile units (Column 5, lines 29-65)
- In regard to claim 25, wherein the call center further comprises means to communicate traffic condition information and divert movement of mobile units

based on traffic condition information about an environment surrounding the mobile units (Column 5, lines 29-47)

5. Claims 1-5, 8, 10, 15-24 and 26-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Breed et al (US 6,405,132). Breed et al discloses an accident avoidance system comprising:

- In regard to claim 1, a system for communicating information between mobile units, the system comprising:
  - A plurality of mobile units (Column 32, lines 57-60; Column 49, line 56 – Column 50, line 52) Breed et al discusses multiple vehicles being equipped with the system and being able to communicate information to each other.
  - Each unit comprising onboard multiple sensors (Column 38, lines 54-67)
  - Each sensor communicating with onboard means for processing inputs from sensors using data fusion (Column 38, lines 54-67). Breed et al discloses using neural fuzzy system computer algorithms to derive optimum vehicle warning and control signals in order to fuse the data received by all of the sensors and decide if there is a risk of an collision and if action needs to be taken.
  - The processing means in communication with means for wireless receiving and means for wireless transmitting of information (Column 49 – Column 52, see section 3. Communication with other vehicles --- Collision avoidance)

- The processing means comprising means for selecting a path for communicating information (Column 49 – Column 52, see section 3. Communication with other vehicles --- Collision avoidance)
  - The path including at least communicating information from one of the mobile units to another mobile unit. (Column 49 – Column 52, see section 3. Communication with other vehicles --- Collision avoidance)
- In regard to claim 2, using multi-sensor fusion information to establish in real time a unique location of each of at least some of the plurality of mobile units (Column 49, lines 19-55 discuss the use of multiple sensors in order to determine the location of the vehicles)
- In regard to claim 3, wherein the at least some mobile units receive input information about the real time location of other mobile units in proximity, and wherein the means for selecting a communication path for each of the at least some mobile units uses the receive input information to select the information communication path. (Column 49 – Column 52, see section 3. Communication with other vehicles --- Collision avoidance)
- In regard to claim 4, wherein the information comprises diagnostic information about a mobile unit (Column 72, lines 23-27)
- In regard to claim 5, wherein the information comprises information about an environment surrounding a mobile unit (Column 39, lines 1-7)
- In regard to claim 8, wherein the means for receiving and the means for transmitting of a first mobile unit each respectively receive and transmit



information from at least one other mobile unit of a series of mobile units, at least one of the series of units in wireless communication with the internet (Column 70, lines 28-32; Column 71, lines 12-14; Column 75, lines 19-20)

- In regard to claim 10, wherein the information comprises information about status of a mobile unit and communication with the internet comprises communication with a call center (Column 70, lines 28-32; Column 71, lines 12-14; Column 75, lines 19-20)
- In regard to claim 15, further comprising utilizing information about mobile unit proximity to each other to provide collision avoidance information to mobile units within a closer than predetermined distance from each other (Column 50, lines 25-45)
- In regard to claim 16, wherein the collision avoidance information is timely provided to an occupant of a mobile unit at risk of collision (Column 50, lines 25-44; Column 52, lines 42 – 61)
- In regard to claim 17, wherein the mobile units comprise automatic collision avoidance controllers receiving collision avoidance information in real time, and a controller of at least one mobile unit at risk initiates evasive action based on the avoidance information (Column 52, lines 42 – 55)
- In regard to claim 18, wherein a mobile unit at risk communicates risk related information with other mobile units at risk via onboard means for receiving and transmitting of the units (Column 52, lines 20-61)

- In regard to claim 19, wherein the risk related information comprises information analyzed by fusion techniques to confirm risk assessment and identify malfunction sensors (Column 52, lines 20-61) Breed et al discusses vehicles sharing information to determine evasive action and be able to avoid the collision if possible.
- In regard to claim 20, a system for traffic control, the system comprising:
  - A plurality of mobile units (Column 32, lines 57-60; Column 49, line 56 – Column 50, line 52) Breed et al discusses multiple vehicles being equipped with the system and being able to communicate information to each other.
  - Each mobile unit equipped with multiple onboard sensors for detecting traffic environment conditions surrounding the mobile unit (Column 38, lines 54-67)
  - Each mobile unit equipped with an onboard processor receiving inputs from the sensors (Column 38, lines 54-67).
  - The processor in communication with means for wireless receiving and for means for wireless transmitting of detected information (Column 49 – Column 52, see section 3. Communication with other vehicles --- Collision avoidance)
  - The processor comprising means for selecting a path for communicating information processed by data fusion between at least one of the mobile

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units and a traffic communication center (Column 49 – Column 52, see section 3. Communication with other vehicles --- Collision avoidance)

- The path comprising using wireless receiving means and wireless transmitting means of at least one other mobile unit (Column 49 – Column 52, see section 3. Communication with other vehicles --- Collision avoidance)
- In regard to claim 21, further comprising using multi-sensor fused data to establish in real time a unique location of each of at least some of the plurality of mobile units, in closest proximity to a mobile unit that is communicating or about to communicate information (Column 50, lines 25-45)
- In regard to claim 22, further comprising mobile units receiving input information about the real time location of other mobile units in proximity (Column 50, lines 25-45)
- In regard to claim 23, further comprising communicating location data for at least some of the mobile units from the mobile units through a communications path comprising receiving and transmitting means of other mobile units to a center, the center having means to receive, store and analyze location data to develop traffic condition information
- In regard to claim 24, wherein the center further comprises means to communicate traffic condition information about an environment surrounding at least some mobile units to the at least some of the mobile units (Column 71, lines 1-17)

- In regard to claim 26, further comprising data fusion of real time location information of mobile units in proximity to each other to obtain a better estimate of real time location of each of the units in proximity (Column 50, lines 25-45)
- In regard to claim 27, a system for improving vehicular safety by enhancing collision avoidance, the system comprising:
  - A vehicle comprising onboard multiple sensors for monitoring parameters of the environment and the vehicle related to collision risk assessment (Column 32, lines 29-39; Column 38, lines 54-67)
  - An onboard processor receiving inputs from the sensors, the processor analyzing the inputs using data fusion techniques to determine collision risk related information (Column 38, lines 54-67). Breed et al discloses using neural fuzzy system computer algorithms to derive optimum vehicle warning and control signals in order to fuse the data received by all of the sensors and decide if there is a risk of a collision and if action needs to be taken.
  - Means for altering a driver of the vehicle when a collision risk exceeding a threshold risk level is determined (Column 38, line 54 - Column 39, line 7;
- In regard to claim 28, the limitations of claim 27 further comprising:
  - Exchanging the collision risk information with vehicles in proximity to each other (Column 49, line 56 – Column 50, line 52)

- Using data fusion to analyze exchanged information with data developed from sensor inputs at each vehicle in proximity (Column 49, line 56 – Column 50, line 52)
  - Applying data fusion techniques to confirm a determined collision risk or otherwise (Column 50, line 55 – Column 52, line 61, specifically lines 20-61)
- In regard to claim 29, further comprising communicating the collision risk related information to a traffic center or other party (Column 52, lines 20-61). Breed et al discusses sending the risk related information to other vehicles if necessary to warn other vehicles of the evasive action that may be taken by a vehicle.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6-7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al (US 6,405,132) in view of Hall et al (US 6,742,037). Breed et al is discussed above and Hall et al discloses a method and apparatus for dynamic information transfer from a mobile target to a fixed target that tracks their relative movement and synchronizes data between them.

- In regard to claims 6 and 7, Breed et al fails to disclose the mobile units comprising onboard means for playing an interactive electronic game. Hall et al, however, discloses a dynamic information transfer system. In the dynamic information transfer system, Hall et al discusses onboard means for playing an interactive electronic game, the game playing means communicating game information to the onboard means for receiving and transmitting of each of the respective at least two mobile units such that game information exchanged permits playing of an interactive game between parties in the at least two mobile units and the means generating game information, the game information communicated to a plurality of participating mobile units substantially simultaneously, the communication permitting participation in an interactive game by at least one party in each of the plurality of mobile units. (Column 7, lines 1-15, lines 51-67) It would have been obvious to one having ordinary skill in the art at the time of the invention to include the interactive game with the invention of Breed et al because Hall et al discusses the system also being able to be used to distribute traffic information and information to a plurality of units. Hall et al teaches the use of transferring information from different mobile units, that information being collision related or just information related to games. (Column 7, lines 43-49)
- In regard to claims 9 and 11, Breed et al fails to disclose specifically the information from the internet comprising any one or more of electronic mail, images, streaming video and streaming audio and commercial transaction

information. Hall et al, however, discloses sending time sensitive and time insensitive data types which includes all of the above. (Column 7, line 51 – Column 8, line 10) It would have been obvious to one having ordinary skill in the art at the time of the invention to add the invention of Hall et al with the collision avoidance invention taught by Breed et al in order to provide a user with all the necessary information that may need to be sent between vehicles and a base station in one location and one system.

8. Claims 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleck et al (US 6,012,012) in view of Breed et al (US 6,405,132). Fleck et al and Breed et al are both discussed above. Fleck et al discloses using location information of vehicles to determine traffic information, however, fails to disclose comprising mobile units receiving input information about the real time location of other mobile units in proximity to each other. Breed et al discusses sending location information of vehicles to other vehicles nearby in order to be able to avoid collisions. (Column 50, lines 25-45) It would have been obvious to one having ordinary skill in the art at the time of the invention to use the proximity and location information as taught by Breed et al with the invention taught by Fleck et al in order to provide the vehicles nearby a vehicle facing traffic with that information. Fleck et al would then know the location of the vehicles surrounding the host vehicle and would be able to send the information only to relevant vehicles.

9. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al (US 6,331,762) in view of Breed (US 5,809,437). Breed et al is discussed

above and Breed discloses an on board vehicle diagnostic module using pattern recognition.

- In regard to claim 30, Breed et al discloses a system for enhancing vehicular safety and performance, the system comprising:
  - Multiple sensors for monitoring variables in a surrounding environment of the vehicle ((Column 39, lines 1-7), and for monitoring variables in vehicular mechanical and electrical systems
  - An onboard processor for receiving inputs from the sensors, at least two different types of sensors providing inputs pertaining to each of the monitored variables (Column 72, lines 23-27)

Breed et al specifically fails to disclose alerting a driver of the vehicle when a best value of a variable is outside a predetermined limit. Breed et al does disclose the need to send a warning when a component fails (Column 72, lines 23-27) but doesn't mention that this is done when the value is outside a predetermined limit. Breed discloses notifying a driver as soon as an abnormal pattern is recognized so this would be when a variable is outside a predetermined limit. (Column 9, lines 13-14) It would have been obvious to one having ordinary skill in the art at the time of the invention to use the diagnostic system as taught by Breed with the accident avoidance system taught by Breed et al because Breed et al recognizes the need to know when certain features on a vehicle are not working properly and that this can cause an accident potentially.



- In regard to claim 31, Breed discloses wherein the variables include vehicle speed, wheel speed, distance to nearest other vehicle, location, tire pressure, oil pressure, brake condition, fuel level, outside temperature, wheel slippage on pavement, and visibility limits (Column 3, line 32 – Column 4, line 61)
- In regard to claim 32, Breed et al discloses wherein the sensors include radar (Column 32, lines 29-38), infrared sensors (Column 32, line 67), GPS detectors (Column 32, lines 61-62) and vehicular inertial sensors (Column 32, lines 62-63)

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie A. Weiskopf whose telephone number is (571) 272-6288. The examiner can normally be reached on Monday-Thursday between 7:00 AM and 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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